NIU Journal of Social Sciences Copyright©2025
Nexus International University ISSN: *3007-1682;* 11(1): 35-46

Fake News and Vaccine Hesitancy in Ijebu-Ode LGA, Ogun State: Assessing the Role of Misinformation in Public Health Decision-Making

DANIEL GBOLAHAN AKINRINOLA
Olabisi Onabanjo University, Ago Iwoye, Ogun State, Nigeria

ODUNAYO CHRISTIANAH ADEDEJI
Bowen University, Iwo, Osun State, Nigeria

Abstract. This study explores the impact of vaccine misinformation on vaccine hesitancy and refusal in Ijebu-Ode LGA, Ogun State, Nigeria, using the Health Belief Model (HBM) as a theoretical framework. The research employed a quantitative approach, surveying 384 respondents with a structured questionnaire to examine the prevalence, sources, and effects of vaccine misinformation. Findings reveal that social media (72.4%) and word of mouth (58.1%) are the most common sources of misinformation, significantly influencing vaccine hesitancy (56.8%) and (59.4) refusal. 30.7% of the respondents are indifferent about the effectiveness of government and public health responses to vaccine misinformation. However, 21.4% respondents perceive public health responses as somewhat ineffective and 25.5% consider the government and public health efforts to be somewhat effective, suggesting a need for stronger intervention strategies. Recommendations include the enhancement of public awareness campaigns, fact-checking initiatives, and the involvement of community leaders to combat misinformation. Strengthening social media regulations and offering vaccination incentives were also suggested. In conclusion, addressing vaccine misinformation through targeted communication and policy strategies is crucial for improving vaccine acceptance, enhancing public health outcomes, and achieving herd immunity in Ijebu-Ode LGA

Keyword: Fake news, Misinformation, Vaccine hesitance, Ijebu-Ode, Public health

1. Introduction

The spread of misinformation and fake news has emerged as a major challenge to global public health, influencing vaccine hesitancy and undermining efforts to control preventable diseases. Vaccine hesitancy, defined by the World Health Organization (WHO) as the delay in acceptance or refusal of vaccines despite their availability, has been identified as one of the top threats to global health (World Health Organization: WHO, 2015). In Nigeria, vaccine hesitancy is driven by a range of factors, including misinformation, language barrier, religious and cultural beliefs, distrust in government and health institutions, and historical precedents of medical controversies (Adeloye et al., 2017; Lin et al., 2021). The rise of digital technology and social media platforms has further accelerated the spread of fake news about vaccines, complicating public health interventions aimed at improving immunization coverage. In Ijebu-Ode Local Government Area (LGA) of Ogun State, where a significant portion of the population relies on social and traditional media for health information, misinformation has the potential to significantly shape public attitudes toward vaccines.

Misinformation about vaccines typically includes exaggerated or completely false claims regarding vaccine safety, efficacy, and intentions behind immunization programs (Skafle, 2022). Some common misinformation narratives include beliefs that vaccines cause infertility, contain harmful substances, or are part of a larger conspiracy to harm certain populations (Islam et al 2021; Skafle, 2022). Such claims, often propagated through social media

platforms like WhatsApp, Facebook, and Twitter, have led to widespread fear and scepticism, particularly in semi-urban and rural areas where fact-checking resources are limited. In Ijebu-Ode Local Government Area of Ogun State, Nigeria, where access to primary healthcare facilities and credible health information varies across different socio-economic groups, misinformation can thrive, leading to low vaccine uptake and increasing the risks of disease outbreaks.

Historically, Nigeria has faced significant challenges related to vaccine hesitancy due to misinformation. One of the most notable examples was the polio vaccine boycott in 2003, primarily in northern Nigeria, following rumours that the vaccine was contaminated with substances that could cause sterility or HIV infection (Jegede, 2007). This led to a resurgence of polio cases, not only in Nigeria but also in other African countries, as the virus spread beyond national borders. More recently, the COVID-19 pandemic exposed new dimensions of vaccine misinformation, with widely circulated fake news claiming that COVID-19 vaccines contained microchips for population control or that they could alter human DNA (Islam et al 2021, Xiao, 2024). In Ogun State, including Ijebu-Ode, similar narratives contributed to vaccine hesitancy, making it difficult for health authorities to achieve high vaccination rates, particularly in the early stages of the COVID-19 vaccination campaign.

Despite efforts by the Nigerian government, public health organizations, and fact-checking platforms such as Dubawa and Africa Check to counteract vaccine misinformation, the problem persists. Many residents of Ijebu-Ode rely on word-of-mouth communication and community opinion leaders, making it difficult to correct false information once it has been widely accepted. Moreover, the lack of stringent regulations on digital misinformation means that misleading claims about vaccines continue to circulate unchecked. This has serious implications for public health, as vaccine-preventable diseases such as measles, polio, and hepatitis remain endemic in certain parts of the country.

Given the impact of misinformation on vaccine uptake, this study seeks to investigate how fake news influences vaccine hesitancy among residents of Ijebu-Ode LGA, Ogun State. The research will explore the primary sources of vaccine misinformation, the platforms through which such misinformation spreads, and the extent to which misinformation affects individuals' willingness to receive vaccines. Furthermore, the study examines public perceptions of health authorities and fact-checking organizations in combating misinformation, as well as propose strategies for improving vaccine communication in the region.

1.1 Research Objectives

- To analyse the prevalence of vaccine misinformation in Ijebu-Ode LGA.
- To examine the sources of vaccine misinformation among residents.
- To assess the impact of fake news on vaccine hesitancy and refusal in Ijebu-Ode LGA.
- To assess the effectiveness of government and public health responses to vaccine misinformation.

2. Literature Review

2.1 Fake News and Misinformation: An Overview

Fake news refers to fabricated information presented as news, typically with the intent to mislead or deceive. It encompasses both *misinformation* and *disinformation*. Misinformation involves the spread of false or inaccurate information without malicious intent, often arising from misunderstandings or miscommunications. In contrast, disinformation is false information designed to mislead others and is deliberately spread with the intent to confuse fact and fiction. Disinformation is deliberately crafted to deceive or manipulate an audience, often with political, financial, or ideological motives (Palfrey & John, 2025). These forms of fake news can vary widely, from exaggerated headlines to entirely fabricated stories, affecting public opinion and social cohesion.

2.2 Psychology of Misinformation

The spread and acceptance of fake news are deeply rooted in cognitive and emotional psychology. Cognitive biases, such as confirmation bias, play a significant role in shaping how people process information. Confirmation bias leads individuals to favour information that aligns with their pre-existing beliefs, making them more susceptible to accepting fake news that supports their views (Piksa, 2024). Emotions, especially fear and anger, also significantly influence the spread of misinformation. Research shows that emotionally charged content is more likely to be shared, as it evokes stronger reactions and engages people's attention (Aghazadeh & Ibrahimli, 2024). Furthermore, social influence—where individuals trust information based on the opinions of

their peers or social groups—further perpetuates the cycle of misinformation.

2.3 Social Media and Fake News

Kayode-Adedeji and Nwakerendu (2022) submits that Social media platforms such as Facebook, Twitter, and WhatsApp have become major vehicles for the dissemination of fake news. These platforms allow rapid information sharing, making it easier for false narratives to spread quickly across wide networks. Algorithms that prioritize engagement and sensational content amplify misinformation by promoting posts with high emotional appeal, often regardless of their truthfulness (Vosoughi et al., 2018). As a result, users are frequently exposed to misleading or fabricated news, which shapes their perceptions of reality. WhatsApp, in particular, has been a prominent platform for the spread of fake news in many regions, given its encrypted and private nature, which makes fact-checking more difficult (Thivakaran, 2024).

The spread of fake news often follows specific patterns. Viral loops occur when sensational stories are shared rapidly among users, who then share them with their networks, leading to exponential spread. Echo chambers, where individuals are repeatedly exposed to similar viewpoints and information, further entrench false narratives by reinforcing existing beliefs. Influential figures, such as political leaders and celebrities, also play a crucial role in spreading fake news. Their large followings amplify the reach of misleading messages. Moreover, as opined by Thivakaran (2024) online communities, including fringe groups and forums, can act as echo chambers for extreme or misleading ideas, making it difficult for fact-based narratives to compete.

2.4 Vaccine Hesitancy

Vaccine hesitancy refers to the reluctance or refusal to accept vaccines despite the availability of vaccination services. This phenomenon is influenced by a complex combination of psychological, social, and cultural factors. Fear is one of the primary drivers, with individuals expressing concerns about the potential side effects or long-term health risks associated with vaccines, many of which are based on misinformation or misconceptions. Trust in healthcare providers and organizations is a significant predictor of vaccine acceptance. Positive relationships with healthcare practitioners and trust in their knowledge can boost vaccine uptake, whereas distrust can lead to hesitancy, particularly among populations with a history of scepticism (Goje & Kapoor 2024).). Additionally, religious and cultural beliefs often play a significant role, with some communities resisting vaccines due to perceived conflicts with their spiritual values or moral frameworks. Misleading information, particularly spread through social media, intensifies these concerns, creating a cycle of scepticism.

A significant aspect of vaccine hesitancy is the spread of vaccine misinformation. One of the most persistent myths is the claim that vaccines cause infertility, particularly in the context of COVID-19 vaccines. Despite extensive scientific evidence debunking this claim, it continues to circulate and influence decision-making, especially in certain communities. Another longstanding myth links vaccines to autism, a belief that originated from a now-discredited study in the late 1990s (Davidson, 2017). These myths, along with conspiratorial narratives about government control or population manipulation through vaccines, remain widespread, especially in online forums where individuals seek out information that aligns with their pre-existing fears and biases. These false claims, amplified by algorithms on social media platforms (Vosoughi et al., 2018; Rodrigues 2024), further distort public understanding of vaccine safety and efficacy

The rise of vaccine hesitancy is a global phenomenon, affecting both high-income and low-income countries. In developed nations, vaccine hesitancy is often found among well-educated but misinformed individuals who are influenced by anti-vaccine movements or the spread of misinformation through social media (Wilson & Wiysonge, 2020). In lower-income countries, hesitancy may be driven by limited access to healthcare, historical distrust in government institutions, or misinformation about vaccines' safety and effectiveness. The COVID-19 pandemic highlighted the global nature of this issue, with hesitancy being prevalent in various regions, including Europe, North America, and parts of Asia and Africa. To counteract this, global health organizations like the World Health Organization (WHO) have been working to restore trust through public education, transparent communication, and community engagement efforts aimed at addressing these concerns

3. Public Health Decision-Making

Public health decision-making is a complex process influenced by a variety of factors that shape how individuals make choices about their health. Information plays a central role in these decisions, but its impact can vary depending on how it is presented and the source from which it originates. Personal beliefs, such as cultural norms, religious values, and

past experiences, also significantly influence health decisions. For example, an individual's perception of a healthcare intervention, like vaccination, may be shaped by their understanding of its risks, benefits, and alignment with their personal or community values. Social influence is another critical factor; people often look to family members, friends, or peer groups for advice and validation when making health decisions, especially in situations where uncertainty or fear is involved. Finally, trust in healthcare providers, governments, and public health organizations plays a vital role in shaping how individuals respond to health information. Without trust in these institutions, people may be more likely to question or disregard health recommendations, even in the face of credible evidence (Goje & Kapoor, 2024).

Risk perception is closely linked to how people assess the potential benefits and harms of health-related behaviours, such as vaccination (Ferrer & Klein, 2015). How individuals perceive the likelihood and severity of health risks influences their willingness to engage in preventive actions. For instance, if a person perceives the risk of contracting a disease as low or the potential consequences as minimal, they may be less inclined to accept a vaccine. The challenges of communicating health risks to the public are compounded by emotional factors, cognitive biases, and misinformation. Sheehan (2021) submits that effective health communication requires providing clear, accurate, and timely information. In the bid to complete the circle of the effectiveness of the health messages, Sharkiya (2023) added that addressing the emotional and psychological concerns that influence risk perceptions can also facilitate good health communication outcomes between patient and physician. Health messages must be framed in a way that resonates with the audience's values and experiences to increase the likelihood of behavioural change. Various public health communication models help explain how people process health information and make decisions. The *Health Belief Model* suggests that individuals are more likely to engage in health-promoting behaviour if they perceive themselves to be at risk, believe the health intervention will be effective, and feel that the benefits outweigh the costs (Rosenstock, 1974).

Public health decision-making is shaped by a combination of information, personal beliefs, social influences, and trust in health authorities. Understanding how people perceive risks and how they process health messages is crucial for developing effective health communication strategies. Theories like the Health Belief Model, Theory of Planned Behaviour, and the Elaboration Likelihood Model provide valuable insights into how individuals make health decisions and can inform the design of more effective public health campaigns. By addressing the cognitive and emotional factors that influence health choices, public health organizations can better guide individuals toward healthier behaviours.

3.1 Health Communication and Information Spread

Health communication plays a critical role in shaping public health decisions, including vaccination, by ensuring individuals have access to accurate, timely, and relevant information. One important aspect of health communication is health literacy, which refers to being able to access, understand, appraise and use information and services in ways that promote and maintain good health and well-being. Health literacy significantly influences vaccination decisions because individuals with lower levels of health literacy may struggle to comprehend complex health messages or the significance of vaccination. This can lead to misunderstandings about vaccine safety, efficacy, or the potential consequences of not vaccinating (Sayer et al (2023). When people cannot interpret or apply health information correctly, they are more likely to be influenced by misinformation or fail to take action to protect themselves and their communities.

The media plays a central role in health communication by shaping public health behaviours and attitudes. Traditional media, including newspapers, television, and radio, has historically been a primary source of health information (Kanchan, & Gaidhane., 2024; Smith et al.,2011). However, in the digital age, social media platforms, blogs, and online forums have become major vehicles for spreading health-related content. While these platforms offer a broader reach, they also introduce challenges, particularly in the form of misinformation and unverified claims. Research has shown that the framing of health issues in the media, such as the portrayal of vaccine risks or benefits, can significantly influence public attitudes and behaviours (Gallagher, & Updegraff, 2011). Digital media's interactive nature allows users to engage with content, share personal stories, and seek support, but it also opens the door for viral misinformation that can have serious public health consequences.

During health crises, such as pandemics or disease outbreaks, risk communication becomes particularly critical. Effective risk communication involves providing timely, accurate, and accessible information that enables people to make informed decisions. Public health authorities must respond quickly to

changing information, using clear, understandable language and avoiding jargon that could confuse or alarm the public. Additionally, transparent communication about uncertainty—such as acknowledging gaps in knowledge or the evolving nature of health recommendations—is essential to maintaining public trust (Dube, 2022). The goal is to empower individuals to make decisions that will protect their health and the health of others, while also minimizing panic and confusion. In the age of misinformation, social media fact-checking has become an essential tool in combating false claims about vaccines. Fact-checking organizations, such as Dubawa, PolitiFact or the WHO's Health Alert initiative, work to verify vaccine-related information and correct misleading or false narratives. Social media platforms have also taken steps to limit the spread of misinformation by removing false content, flagging misleading posts, and promoting authoritative sources.

4. Theoretical Review

4.1 The Health Belief Model and Vaccine Hesitancy

The Health Belief Model (HBM) has been widely applied in health communication and behavioural research to explain individuals' decisions regarding preventive health actions, particularly vaccination. Originally developed by Rosenstock (1974), the HBM posits that health behaviours are influenced by individuals' perceptions of susceptibility to a disease, the severity of the disease, and the benefits of taking preventive action, and the barriers to that action. Given the prevalence of misinformation in shaping vaccine attitudes, the HBM serves as a valuable framework for understanding vaccine hesitancy and how misinformation influences public health decisions.

A central tenet of the HBM is that individuals are more likely to engage in preventive behaviours, such as vaccination, when they perceive themselves as susceptible to a disease and believe the disease poses serious health risks (Zampetakis, & Melas, 2021). However, misinformation can distort these perceptions. Studies have shown that misinformation about the risks of vaccine-preventable diseases can lead individuals to underestimate their susceptibility. For instance, Romer (2022) discovers that respondents subjected to vaccination misinformation were more hesitant to receive the COVID-19 vaccines. Additionally, some individuals prefer natural immunity, reducing their perceived need for vaccination. Participants in the study conducted by Ebrahimi (2021) beliefs in the superiority of natural immunity as compared to vaccination was measured by asking them to rate the statement

The HBM also emphasizes the role of perceived benefits and barriers in health-related decision-making. Vaccine acceptance is often contingent on individuals recognizing the benefits of immunization. However, misinformation can erode trust in vaccine efficacy, leading to scepticism. Islam et al 2021 and Skafle, 2022 (2017) highlight that false claim about vaccines causing long-term health problems, such as infertility or DNA alteration, create psychological barriers that outweigh perceived benefits.

5. Methodology

The study adopted a survey research design to collect data from residents of Ijebu-Ode Local Government Area (LGA), with an estimated population of 394,000, according to macrotrends.net (2024). A sample size of 384 respondents was calculated using the survey Monkey sample size calculator to ensure statistical significance. Convenience sampling was used to select participants who were easily accessible within the study area. Data collection was done through a structured questionnaire designed specifically for the research, focusing on respondents' perceptions of vaccine hesitancy and misinformation. Out of the 384 questionnaires administered, 372 were completed and returned for analysis.

6. Results

Table 1: Percentage Distribution of Respondents by Gender

Demographic Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	189	49.2
	Female	195	50.8
Age	18–24 years	58	15.1
	25–34 years	91	23.7
	35–44 years	86	22.4
	45–54 years	69	18
	55 years and above	80	20.8
Education Level	No formal education	31	8.1
	Primary education	39	10.2

	Secondary education	101	26.3
	Tertiary education	179	46.6
	Postgraduate education	34	8.9
Occupation	Student	51	13.3
	Employed (Public/Private)	149	38.8
	Self-employed	61	15.9
	Unemployed	59	15.4
	Retired	25	6.5
	Others (e.g., homemaker)	39	10.1
Marital Status	Single	179	46.6
	Married	151	39.3
	Divorced/Widowed	54	14.1
Income Level	Below ₦30,000	111	28.9
	₦30,000–₦60,000	89	23.2
	₦60,001–₦100,000	76	19.8
	₦100,001–₦200,000	61	15.9
	Above ₦200,000	47	12.2
Ethnicity	Yoruba	251	65.4
	Igbo	81	21.1
	Hausa	29	7.6
	Other	23	6

Table 1 presents the demographic characteristics of 384 respondents in Ijebu-Ode LGA. The gender distribution is almost equal, with males representing 49.2% and females 50.8%. The highest proportion of respondents (46.6%) attained tertiary education, while a notable percentage (26.3%) have secondary education. In terms of employment status, 38.8% are employed in public or private sectors, while 15.9% are self-employed. The age distribution shows a relatively balanced spread across different age groups, with the highest concentration (23.7%) falling within the 25–34 years category. Regarding ethnicity, Yoruba respondents form the majority (65.4%), followed by Igbo (21.1%) and Hausa (7.6%). The marital status breakdown indicates that 46.6% of respondents are single, while 39.3% are married. Income distribution reveals that 28.9% earn below ₦30,000, while 23.2% fall within the ₦30,000–₦60,000 range. Higher-income groups (above ₦200,000) constitute a smaller proportion (12.2%). The findings provide an overview of the diverse socio-economic and demographic landscape of the study population.

Objective 1: To analyse the prevalence of vaccine misinformation in Ijebu-Ode LGA

Table 2: Encountering False or Misleading Vaccine Information

Question	Response	Frequency (n)	Percentage (%)
Have you ever come across information about vaccines that you later discovered was false or misleading?	Yes	384	100
	No	0	0
	Not Sure	0	0
Total		384	100

The response to table 2 reveals that every participant (100%) has encountered false or misleading information about vaccines, underscoring the pervasive nature of vaccine misinformation within Ijebu-Ode LGA. This finding indicates that misinformation is not an isolated issue but rather a widespread challenge that potentially affects the entire population.

Table 3: Frequency of Encountering Potentially False Vaccine Information

Question	Response	Frequency (n)	Percentage (%)
How often do you encounter information about vaccines that you believe may not be true?	Frequently	101	26.3
	Occasionally	195	50.8
	Rarely	81	21.1
	Never	7	1.8
Total		384	100

The responses in table 3 illustrate the frequency at which respondents come across potentially false vaccine information. A significant portion (50.8%) encounters such misinformation occasionally, while 26.3% report frequent

exposure. Similarly, 21.1% state that they rarely encounter misleading vaccine-related content. Meanwhile, 1.8% of respondents claim they have never come across such information.

Objective 2: To examine the sources of vaccine misinformation among residents

Table 4: Sources of Misleading or False Vaccine Information

Question	Source	Frequency (n)	Percentage (%)
From which of the following sources have you encountered misleading or false information about vaccines? (Select all that apply)	Social media (Facebook, Twitter, WhatsApp, etc.)	278	72.4
	Word of mouth (family, friends, etc.)	223	58.1
	News outlets (television, radio, newspapers)	18	4.7
	Religious or community leaders	147	38.3
	Online forums or websites	131	34.1
	Other (please specify)	41	10.7
Total		384	100

Table 4 highlights the primary sources of misleading or false vaccine information, with social media being the most commonly cited (72.4%), followed by word of mouth (58.1%). News outlets contribute a smaller portion (4.7%), reinforcing the idea that traditional media plays a limited role in spreading misinformation within this community. However, misinformation from religious/community leaders (38.3%) and online forums/websites (34.1%) remains significant. Additionally, 10.7% of respondents reported encountering misinformation from other unspecified sources. These findings suggest that misinformation is primarily disseminated through digital and interpersonal channels rather than through formal media outlets.

Table 5: Perceived Reliability of Vaccine-Related Information Sources

Question	Response	Frequency (n)	Percentage (%)
How reliable do you consider the sources of vaccine-related information you come across?	Very reliable	32	8.3
	Somewhat reliable	58	15.1
	Neutral	122	31.8
	Somewhat unreliable	109	28.4
	Very unreliable	63	16.4
Total		384	100

Table 5 indicates that most respondents are skeptical about the reliability of vaccine-related information they encounter. A significant portion (31.8%) remains neutral, while 28.4% view these sources as somewhat unreliable, and 16.4% consider them very unreliable. Meanwhile, only 8.3% perceive the sources as very reliable, and 15.1% consider them somewhat reliable. These findings suggest that uncertainty about the credibility of vaccine information is prevalent, which could contribute to misinformation and vaccine hesitancy within the community.

Objective 3: To assess the impact of fake news on vaccine hesitancy and refusal in Ijebu-Ode LGA

Table 6: Impact of Misinformation on Vaccine Hesitancy

Question	Response	Frequency (n)	Percentage (%)
Has any misinformation you've encountered about vaccines made you feel hesitant about getting vaccinated?	Yes	218	56.8
	No	152	39.6
	Not sure	14	3.6
Total		384	100

Table 6 reveals that a substantial proportion of respondents (56.8%) report feeling hesitant about getting vaccinated due to misinformation they have encountered. Meanwhile, 39.6% do not experience hesitancy despite exposure to

misinformation, and a small fraction (3.6%) remains uncertain. These findings suggest that misinformation plays a significant role in vaccine hesitancy within the community, although a considerable number of individuals remain unaffected by it.

Table 7: Vaccine Refusal Due to Misinformation

Question	Response	Frequency (n)	Percentage (%)
Have you or anyone close to you refused to take a vaccine due to misleading information or fake news?	Yes	228	59.4
	No	142	37
	Not applicable	14	3.6
Total		384	100

Table 7 reveals that 59.4% of respondents, or someone they know, have refused to take a vaccine due to misinformation or fake news, making this the most common response. Meanwhile, 37.0% report that neither they nor anyone close to them has refused a vaccine for this reason, while 3.6% consider the question not applicable. This underscores the significant influence of misinformation on vaccine refusal in the community, highlighting a clear link between exposure to fake news and vaccine hesitancy.

Objective 4: To assess the effectiveness of government and public health responses to vaccine misinformation

Table 8: Perceived Effectiveness of Government and Public Health Responses to Vaccine Misinformation

Question	Response	Frequency (n)	Percentage (%)
How effective do you believe the government and public health responses have been in addressing vaccine misinformation?	Very effective	42	10.9
	Somewhat effective	98	25.5
	Neutral	118	30.7
	Somewhat ineffective	82	21.4
	Very ineffective	44	11.5
Total		384	100

Table 8 shows that 30.7% of respondents have a neutral stance on the effectiveness of government and public health responses to vaccine misinformation. Meanwhile, 25.5% consider the efforts to be somewhat effective, while 10.9% view them as very effective. On the other hand, 21.4% believe the efforts are somewhat ineffective, and 11.5% rate them as very ineffective. These findings suggest that while some respondents acknowledge efforts to combat misinformation, a significant portion remains dissatisfied, highlighting the need for more robust and targeted strategies to counter vaccine misinformation.

Table 9: Government and Public Health Strategies to Combat Vaccine Misinformation

Question	Response	Frequency (n)	Percentage (%)
What actions do you believe the government and public health organizations should take to combat vaccine misinformation? (Select all that apply)	Increase public awareness campaigns	300	78.1
	Fact-checking and debunking misinformation	251	65.1
	Engage community leaders to promote accurate information	199	52.1
	Strengthen social media regulation	181	46.9
	Offer incentives for vaccination	131	33.8
	Other (please specify)	41	10.4
Total Respondents		384	100

The data presented in table 9 highlight the preferred actions that respondents believe the government and public health organizations should take to address vaccine misinformation. The most widely supported strategy is increasing public awareness campaigns, with 78.1% of respondents endorsing this measure. This suggests that the majority of participants recognize the importance of large-scale educational initiatives in countering misinformation. Fact-checking and debunking misinformation is the second most supported action, with 65.1% of respondents advocating for this approach. This indicates a strong demand for reliable verification mechanisms to correct false information circulating within the community.

Similarly, 52.1% of respondents believe that engaging community leaders to promote accurate information is crucial. This reflects the perceived influence of trusted local figures in shaping public perceptions of vaccines.

Additionally, 46.9% of respondents support strengthening social media regulations as a means of curbing the spread of misinformation. This finding underscores concerns about the role of digital platforms in amplifying false narratives and suggests a call for stricter oversight. Offering incentives for vaccination is supported by 33.8% of respondents, implying that financial or other benefits could serve as motivators for vaccine acceptance. Finally, 10.4% of respondents suggest alternative measures not specified in the survey. Overall, the findings indicate that respondents favor a multi-faceted approach to combating vaccine misinformation, with a strong emphasis on public education, fact-checking, and regulatory measures. The support for engaging community leaders also highlights the role of social influence in shaping vaccine perceptions. These insights suggest that an integrated strategy incorporating both traditional and digital communication efforts may be most effective in addressing vaccine misinformation.

7. Discussion of findings

The findings from this study provide critical insights into the prevalence, sources, and impact of vaccine misinformation in Ijebu-Ode LGA, as well as the preferred strategies for combating misinformation. The demographic analysis reveals a balanced representation of gender and a diverse socio-economic background among respondents, which enhances the generalizability of the results within the study area.

One of the most striking findings is that all respondents (100%) reported encountering false or misleading vaccine information. This suggests that vaccine misinformation is a pervasive issue in the community, necessitating urgent intervention. The frequency of exposure to misinformation varies, with 50.8% encountering it occasionally and 26.3% frequently, while 21.1% rarely come across such content. Notably, 1.8% claim they have never encountered vaccine misinformation, indicating that while misinformation is widespread, it does not reach all individuals equally. The primary sources of vaccine misinformation were identified in Table 4, with social media being the most cited (72.4%), followed by word of mouth (58.1%). This finding aligns with global trends where digital platforms serve as major conduits for misinformation. Additionally, misinformation from religious/community leaders (38.3%) and online forums/websites (34.1%) further underscores the need for targeted interventions across various information channels. Traditional news outlets play a relatively minor role (4.7%) in spreading misinformation, suggesting that mainstream media remains a more reliable source for vaccine-related information.

A critical aspect of this study is the impact of misinformation on vaccine hesitancy. The findings indicate that 56.8% of respondents report feeling hesitant about getting vaccinated due to misinformation, while 39.6% remain unaffected. This suggests that misinformation significantly influences vaccine decisions for a majority, reinforcing the need for effective countermeasures. Furthermore, 59.4% of respondents, or someone they know, have refused a vaccine due to misinformation. This high percentage highlights the tangible consequences of misinformation, demonstrating its ability to deter individuals from making informed health decisions. Respondents also expressed scepticism regarding the reliability of vaccine-related information, with 31.8% remaining neutral and 44.8% considering it somewhat or very unreliable. This uncertainty about credible sources could further contribute to misinformation-related vaccine hesitancy. These findings emphasize the need for trustworthy, evidence-based health communication strategies to restore public confidence in vaccine information.

The study also examined perceptions of government and public health efforts in addressing vaccine misinformation. While some respondents (36.4%) find these efforts effective, a notable proportion (32.9%) consider them ineffective. Additionally, 30.7% remain neutral, indicating mixed opinions on the effectiveness of current strategies. This suggests that while some progress has been made, a substantial portion of the population remains unconvinced about the success of these interventions.

Regarding preferred strategies for combating misinformation, increasing public awareness campaigns emerged as the most widely supported measure (78.1%). This indicates that respondents recognize the importance of large-scale educational initiatives in countering misinformation. Fact-checking and debunking misinformation (65.1%) also received strong support, highlighting the demand for mechanisms that provide accurate information. Additionally, engaging community leaders (52.1%) and strengthening social media regulations (46.9%) were seen as important measures, reflecting the role of both interpersonal influence and digital regulation in mitigating misinformation. Offering incentives for vaccination (33.8%) was less favoured but still seen as a potential motivator for vaccine acceptance.

Overall, these findings suggest that a multi-faceted approach is necessary to address vaccine misinformation. A combination of educational initiatives, regulatory measures, and community engagement appears to be the most effective strategy for combating misinformation. Given the significant role of social media and word of mouth in spreading misinformation, interventions should focus on improving digital literacy, enhancing fact-checking mechanisms, and fostering trust in credible sources. Additionally, empowering community leaders and local influencers to disseminate accurate information could be instrumental in shifting public perceptions and encouraging informed decision-making about vaccines.

8. Recommendations

Based on the findings from the survey, the following recommendations can be made to address the challenges posed by vaccine misinformation in Ijebu-Ode LGA:

Enhance Public Awareness Campaigns: It is crucial for government and public health organizations to intensify efforts in educating the public about vaccines, their benefits, and the dangers of misinformation. Campaigns should be widely disseminated through both traditional and digital media platforms to reach a broader audience.

Fact-Checking and Misinformation Debunking: It is essential for government bodies, health organizations, and independent fact-checkers to collaborate in identifying and countering false claims about vaccines. Platforms such as social media, which are major sources of misinformation, should be monitored and used for correctional messages.

Engage Trusted Community Leaders: Public health campaigns should involve local influencers, including religious leadrs, community organizers, and respected individuals, to disseminate trusted vaccine information. These figures can play a key role in overcoming cultural and social barriers to vaccine acceptance.

Strengthen Social Media Regulation: Given that social media is a significant source of misinformation, public health authorities should work with social media platforms to strengthen regulations around the sharing of false health information. This can include flagging and removing harmful posts and collaborating with social media companies to promote factual, evidence-based content.

Address Vaccine Hesitancy Through Targeted Interventions: Health messages should directly address common misconceptions and provide clear, accessible information to alleviate concerns. Interactive forums, Q&A sessions with health experts, and educational workshops could also be effective.

Offer Incentives for Vaccination: Public health authorities could explore implementing incentive-based programs, such as discounts, vouchers, or access to community services for vaccinated individuals, to encourage vaccination uptake and reward responsible health behavior.

Improve Public Health Communication Strategies: A comprehensive and integrated approach, which includes timely responses to misinformation and community engagement, should be adopted to strengthen public trust and ensure the widespread acceptance of vaccines.

Collaborate with Media Outlets: Despite a lower percentage of respondents citing news outlets as a major source of misinformation, traditional media remains important. Public health authorities should collaborate with credible media outlets to regularly provide factual, evidence-based information and counteract misleading narratives surrounding vaccines

9. Conclusion

The study highlights the significant role of misinformation in shaping vaccine attitudes in Ijebu-Ode LGA. The findings reveal that social media, word of mouth, and community leaders are the primary sources through which residents encounter misleading or false information about vaccines. This misinformation has had a considerable impact on vaccine hesitancy, with a substantial proportion of respondents reporting hesitation or refusal to take the vaccine due to exposure to fake news.

While government and public health efforts have been recognized, the survey suggests that these responses are perceived as somewhat ineffective, emphasizing the need for more robust, multi-faceted strategies to combat vaccine misinformation. Public awareness campaigns, fact-checking initiatives, and the active involvement of trusted community leaders were identified as key actions for improving vaccine acceptance and reducing misinformation.

To address the ongoing challenges posed by vaccine misinformation, it is essential that public health agencies prioritize clear, targeted communication efforts and collaborate with various stakeholders,

including the media, social media platforms, and community leaders. Additionally, offering incentives for vaccination and strengthening social media regulation could further enhance vaccination uptake.

Ultimately, addressing vaccine misinformation is crucial not only for increasing vaccination rates but also for safeguarding public health. By implementing the recommendations from this study, Ijebu-Ode LGA can foster a more informed, engaged, and health-conscious community, contributing to the broader goal of achieving herd immunity and controlling vaccine-preventable diseases.

References

Adeloye, D., Jacobs, W., Amuta, A. O., Ogundipe, O., Mosaku, O., Gadanya, M. A., & Oni, G. (2017). Coverage and determinants of childhood immunization in Nigeria: A systematic review and meta-analysis. *Vaccine*, *35*(22), 2871–2881.

Aghazadeh Tabrizi, H., & Ibrahimli, N. (2024). The role of emotional content on consumer engagement. In Tomas Mullern, *Master's Degree Project in Business Administration* [Thesis].https://hj.diva-portal.org/smash/get/diva2:1903264/FULLTEXT01.pdf

Davidson, M. (2017). Vaccination as a cause of autism—Myths and controversies. *Dialogues in Clinical Neuroscience*, *19*(4), 403–407. https://doi.org/10.31887/DCNS.2017.19.4.mdavidson

Dubé, È., Labbé, F., Malo, B., & Pelletier, C. (2022). Public health communication during the COVID-19 pandemic: Perspectives of communication specialists, healthcare professionals, and community members in Quebec, Canada. *Canadian Journal of Public Health*, *113*(Suppl 1), 24–33. https://doi.org/10.17269/s41997-022-00697-7

Ebrahimi, O. V., Johnson, M. S., Ebling, S., Amundsen, O. M., Halsøy, Ø., Hoffart, A., Skjerdingstad, N., & Johnson, S. U. (2021). Risk, trust, and flawed assumptions: Vaccine hesitancy during the COVID-19 pandemic. *Frontiers in Public Health*, *9*. https://doi.org/10.3389/fpubh.2021.700213

Ferrer, R., & Klein, W. N. (2015). Risk perceptions and health behaviour. *Current Opinion in Psychology*, *5*, 85–89. https://doi.org/10.1016/j.copsyc.2015.03.012

Gallagher, K. M., & Updegraff, J. A. (2011). Health message framing effects on attitudes, intentions, and behavior: A meta-analytic review. *Annals of Behavioral Medicine*, *43*(1), 101–116. https://doi.org/10.1007/s12160-011-9308-7

Goje, O., & Kapoor, A. (2024). Meeting the challenge of vaccine hesitancy. *Cleveland Clinic Journal of Medicine*, *91*(9 Suppl 1), S50–S56. https://doi.org/10.3949/ccjm.91.s1.08

Islam, M. S., Kamal, A.-H. M., Kabir, A., Southern, D. L., Khan, S. H., Hasan, S. M. M., et al. (2021). COVID-19 vaccine rumors and conspiracy theories: The need for cognitive inoculation against misinformation to improve vaccine adherence. *PLoS ONE*, *16*(5), e0251605. https://doi.org/10.1371/journal.pone.0251605

Jegede, A. S. (2007). What led to the Nigerian boycott of the polio vaccination campaign? *PLoS Medicine*, *4*(3), e73.

Kanchan, S., & Gaidhane, A. (2024). Print media role and its impact on public health: A narrative review. *Cureus*, *16*(5), e59574. https://doi.org/10.7759/cureus.59574

Kayode-Adedeji, T., & Nwakerendu, I. (2022). Dissemination of fake news on social media: A demographic analysis of audience involvement. *European Conference on Social Media*, *9*(1), 289–297. https://doi.org/10.34190/ecsm.9.1.166

Lin, C., Mullen, J., Smith, D., Kotarba, M., Kaplan, S. J., & Tu, P. (2021). Healthcare providers' vaccine perceptions, hesitancy, and recommendation to patients: A systematic review. *Vaccines*, *9*(7), 713.

Palfrey, J. (2025). Misinformation and disinformation: Overview, differences, how it is spread, free expression, & AI. *Encyclopedia Britannica.* https://www.britannica.com/topic/misinformation-and-disinformation

Piksa, M., Noworyta, K., Gundersen, A., Kunst, J., Morzy, M., Piasecki, J., & Rygula, R. (2024). The impact of confirmation bias awareness on mitigating susceptibility to misinformation. *Frontiers in Public Health*, *12*, 1414864. https://doi.org/10.3389/fpubh.2024.1414864

Rodrigues, F., Newell, R., Babu, G. R., Chatterjee, T., Sandhu, N. K., & Gupta, L. (2024). The social media infodemic of health-related misinformation and technical solutions. *Health Policy and Technology*, 100846. https://doi.org/10.1016/j.hlpt.2024.100846

Romer, D., Winneg, K. M., Jamieson, P. E., Brensinger, C., & Jamieson, K. H. (2022). Misinformation about vaccine safety and uptake of COVID-19 vaccines among adults and 5–11-year-olds in the United States.

Vaccine, *40*(45), 6463–6470. https://doi.org/10.1016/j.vaccine.2022.09.046

Rosenstock, I. M. (1974). Historical origins of the health belief model. *Health Education Monographs*, *2*(4), 328–335. https://doi.org/10.1177/109019817400200403

Sayar, M. S., Akça, M. Ö., Hakyemez, I. S. N., & Asan, A. (2023). The impact of health literacy on COVID-19 immunization. *Human Vaccines & Immunotherapeutics*, *19*(2), 2254539.
https://doi.org/10.1080/21645515.2023.2254539

Sheehan, J., Laver, K., Bhopti, A., Rahja, M., Usherwood, T., Clemson, L., & Lannin, N. A. (2021). Methods and effectiveness of communication between hospital allied health and primary care practitioners: A systematic narrative review. *Journal of Multidisciplinary Healthcare*, *14*, 493–511. https://doi.org/10.2147/JMDH.S295549

Sharkiya, S. H. (2023). Quality communication can improve patient-centered health outcomes among older patients: A rapid review. *BMC Health Services Research*, *23*(1). https://doi.org/10.1186/s12913-023-09869-8

Skafle, I., Nordahl-Hansen, A., Quintana, D. S., Wynn, R., & Gabarron, E. (2022). Misinformation about COVID-19 vaccines on social media: Rapid review. *Journal of Medical Internet Research*, *24*(8), e37367. https://doi.org/10.2196/37367

Smith, M. L., Menn, M., & McKyer, E. L. J. (2011). Effectiveness of the radio as a health information source. *Journal of Radio & Audio Media*, *18*(2), 196–211. https://doi.org/10.1080/19376529.2011.615776

Thivakaran, V. (2024). Misinformation on social media and its consequences: Issues to consider in Tamil media. *International Journal of Research and Innovation in Social Science*, *8*(11), 505–518. https://doi.org/10.47772/ijriss.2024.8110042

Vosoughi, S., Roy, D., & Aral, S. (2018). The spread of true and false news online. *Science*, *359*(6380), 1146–1151.

Wilson, S. L., & Wiysonge, C. (2020). Social media and vaccine hesitancy. *BMJ Global Health*, *5*(10), e004206. https://doi.org/10.1136/bmjgh-2020-004206

World Health Organization (WHO). (2015, August 18). Vaccine hesitancy: A growing challenge for immunization programmes. https://www.who.int/news/item/18-08-2015-vaccine-hesitancy-a-growing-challenge-for-immunization-programmes

Xiao, W. (2024). COVID-19 anti-vaccine misinformation discourse on Twitter: Influential roles of polarization and the 2020 US presidential election. *Telematics and Informatics Reports*, *15*, 100162. https://doi.org/10.1016/j.teler.2024.100162

Zampetakis, L. A., & Melas, C. (2021). The health belief model predicts vaccination intentions against COVID-19: A survey experiment approach. *Applied Psychology: Health and Well-being*, *13*(2), 469–484. https://doi.org/10.1111/aphw.12262